SONY

3-754-849-22 (2)

CD Radio Cassette-Corder

CFD-20/30

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.

COMPACT disc DIGITAL AUDIO

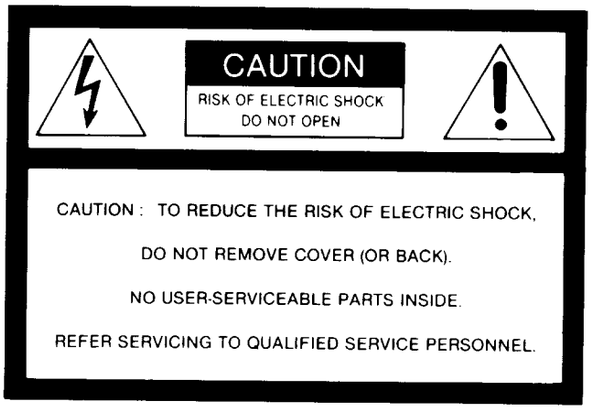
Owner's Record

The model number and serial number are located at the bottom. Record the model and serial numbers in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

The use of optical instruments with this product will increase eye hazard.

Sony Corporation © 1992 Printed in Korea

INFORMATION

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to prodvide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient the receiving antenna
Relocate the equipment with respect to the receiver
Move the equipment away from the receiver
Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:
"How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

For the customers in Canada
This apparatus complies with the Class B limits for radio noise emissions set out in Radio Interference Regulations.

CAUTION:

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

P/N : 3874S-2003Y

About This Manual

This manual includes information on two CD radio cassette-corders, the CFD-20 and CFD-30. First, refer to the model name indicated on the top and bottom panels and check what your model is. Any differences in appearance or operation of the two models are clearly indicated in the text, for example, "For CFD-30 only." However, note that the illustrations used in this manual are those of the CFD-30.

Precautions

Notes on power sources

- Operate the unit only 120 AC or 9 V DC.
  For AC operation, use the supplied AC power cord; do not use any other type.
  For battery operation, use six size D (R20) batteries.
- When the internal batteries will not be used, remove them to avoid damage caused by battery leakage and corrosion.
- Unplug the unit from the wall outlet when it is not to be used for an extended period of time.

Note on handling the unit

- As the laser beam used in the CD player section is harmful to the eyes, do not attempt to disassemble the casing. Refer servicing to qualified personnel only.
- If the unit is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lens inside the CD player section. Should this occur, the player will not operate properly. In this case, remove the disc and wait about an hour for the moisture to evaporate.
- Avoid exposure to temperature extremes, direct sunlight, dust, or mechanical shock.
- If the unit is left in a car parked in the sun, be sure to choose a location in the car where the unit will not be subject to the direct rays of the sun.
- Should any solid object or liquid fall into the unit, unplug the unit, remove the batteries, and have the unit checked by qualified personnel before operating it any further.
- Be careful not to lift the handle while the telescopic antenna is in a raised position.
- After long storage, set the unit in playback mode and warm it up for a few minutes before inserting a cassette.
- Do not place anything within 10 mm of the side of the cabinet. The ventilation holes must be unobstructed for the proper operation of the unit and to prolong the life of its components.
- Since a strong magnet is used for the speakers, keep personal credit cards using magnetic coding or spring-wound watches away from the unit to prevent possible damage from the magnet.

Note on cassettes longer than 90 minutes

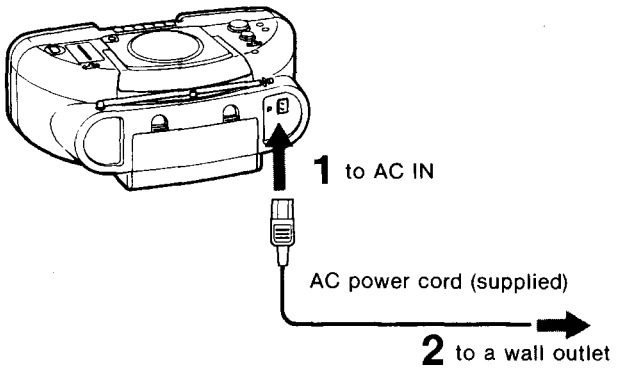
The use of those cassettes is not recommended except for long continuous recording or playback.

If you have any question or problem concerning your unit that is not covered in this manual, consult your nearest Sony dealer.

Power Sources

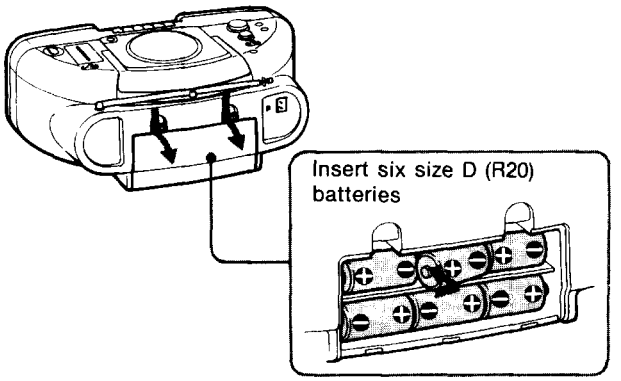
The OPR/BATT indicator lights during operation.

House Current



Batteries

The unit cannot be operated on the internal batteries when the AC power cord is connected to the unit.



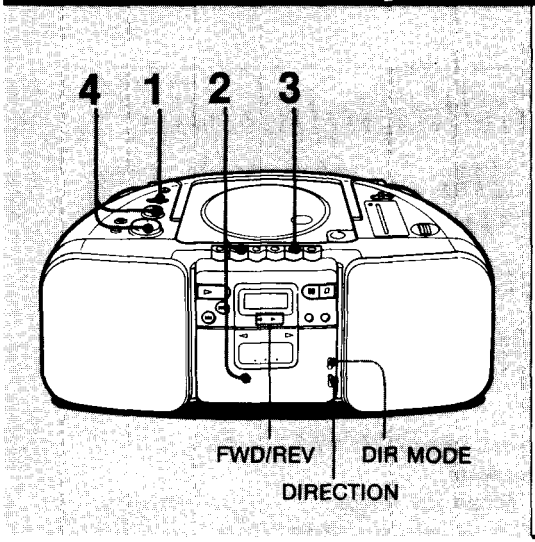
For critical recording or disc playing

Operating the unit on AC power is recommended.

When to replace the batteries

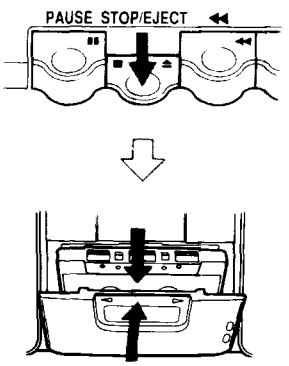
If the batteries become weak while the unit is in operation, the OPR/BATT indicator will glow faintly. In this case, replace all the batteries with new ones.

Playing a Tape



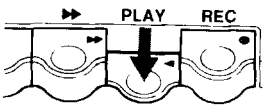
1

2 **Insert a cassette.**



Close.

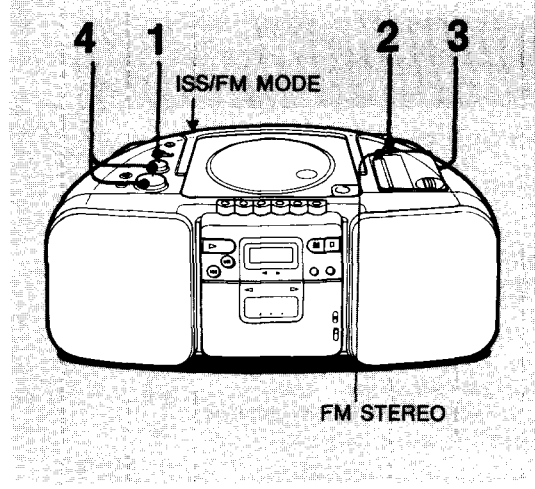
3



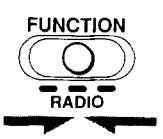
To pause: Press ⏸.
To resume play, press ⏸ again.
To wind the tape rapidly in ◀ direction:
Press ◀◀.
To wind the tape rapidly in ▶ direction:
Press ▶▶.
To eject the tape: Press ■ ⏏.

To listen to the reverse side (CFD-30 only)
Push down and release the DIRECTION lever. The FWD/REV (forward/reverse) indicator indicates the side being played.

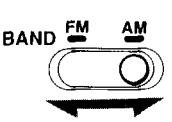
Listening to the Radio



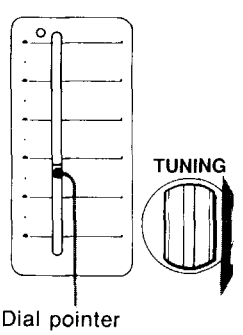
1



2 **Select the desired band.**



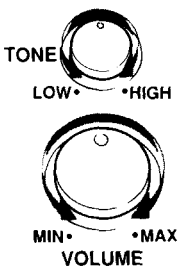
3 **Tune in.**



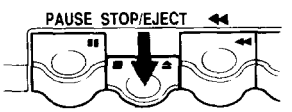
To receive an FM stereo program
Set the ISS/FM MODE switch on the rear panel to STEREO. When an FM stereo program is tuned in, the FM STEREO indicator lights. If the received FM stereo signal is too weak, the reception becomes monaural, and the FM STEREO indicator will go out.

When an FM stereo program is noisy
Set the switch to MONO. You can hear the monaural program with less noise.

4



To stop play



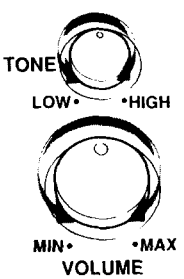
When the tape reaches the end, ◀ is released automatically.

To select playback mode (CFD-30 only)

	DIR (direction) MODE selector
To play both sides of a cassette repeatedly	Set to ⇄
To play both sides of a cassette once*	Set to ⇀

*Playback should be started from the forward (front) side. Be sure to set the ◁ ▷ FWD/REV indicator to ◁. If not, the tape will stop playing when the playback of the reverse side is finished, even if the DIR MODE selector is set to ⇀.

4

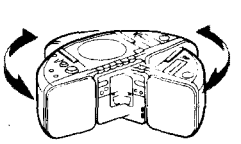


To turn off the radio

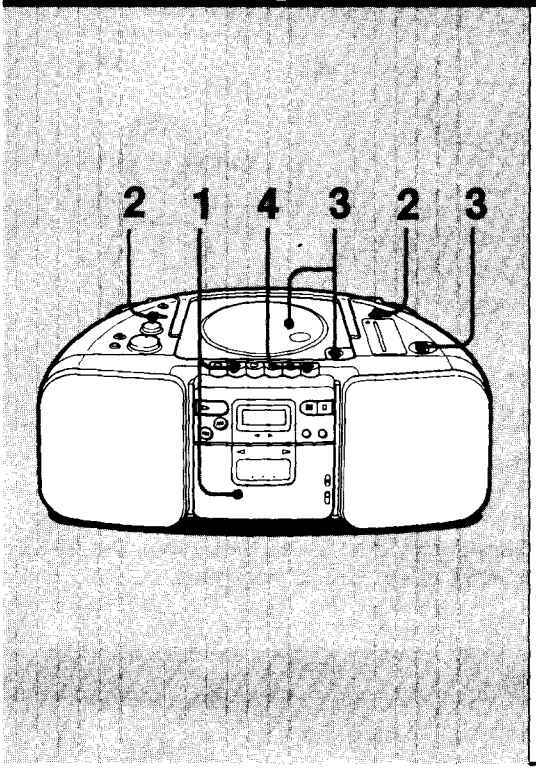
For improved reception

FM

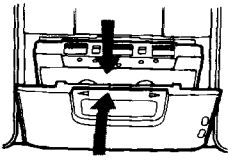
AM



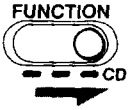
Recording—Use only a TYPE I (normal) cassette for recording.



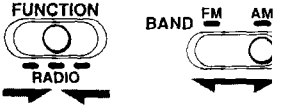
1 **Insert a cassette.**



2 **From a disc**



2 **From the radio**



On recording level

Recording level is automatically set. Volume and tone adjustments will not affect recording level.

To reduce noise during AM recording

Set the ISS*/FM MODE switch on the rear panel to 1, 2 or 3, depending on which one best reduces the noise.

*ISS = Interference Suppress Switch

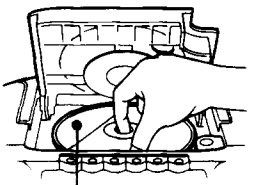
To record in PGM (program) mode

1 Set FUNCTION to CD.
2 Select PGM play. (See "Selecting Various Playing Modes".)
3 Press the ● REC button.
Disc playing and recording will automatically start after about 8 seconds.

Note (CFD-30 only)

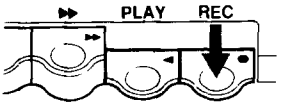
The auto-reverse function does not work for recording. You can record only on the forward (◁) side.

3



Label surface up

4

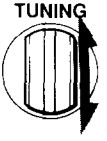


To stop recording
Press □ of the CD player and ■ ▲ of the cassette deck.

When the tape reaches the end, ● and ◀ are released automatically.

To turn off the unit
Set FUNCTION to TAPE CD/RADIO OFF.

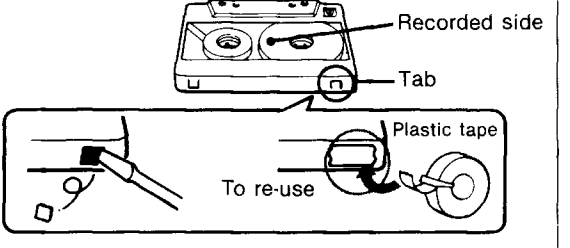
3



◀ is depressed automatically.

When you record from a disc, press ● REC after the number of the selections in the disc and the total playing time are displayed.
Disc playing will automatically start from the first selection after about 8 seconds.

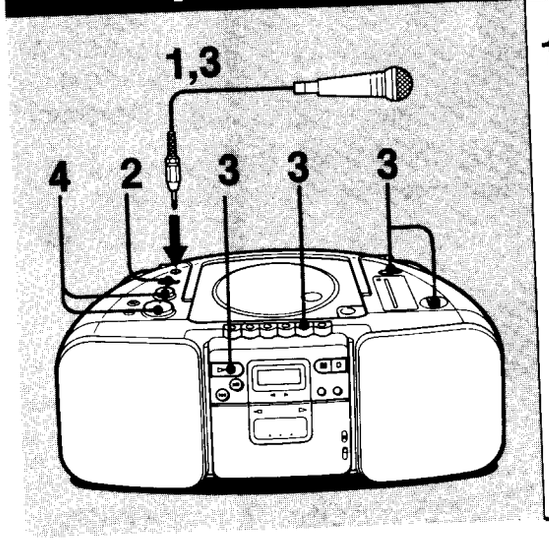
To prevent accidental erasure
Break off the tab corresponding to the side which has been recorded on.
Recording on that side will be protected.



*ISS = Interference Suppress Switch

side.

Microphone Mixing—Use a monaural microphone equipped with a miniplug (not supplied).



To record the mixed sound
Insert a cassette and only press ●. You can record the sound of the microphone mixed with a CD or radio program.

1

Turn on the power if it has a switch.

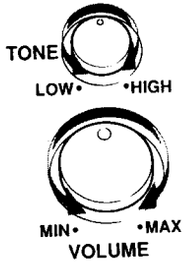
2 **Choose the desired sound source with the FUNCTION selector.**

Sound source	FUNCTION selector
CD sound	CD
Radio program	RADIO
Tape sound	TAPE CD/RADIO OFF

3

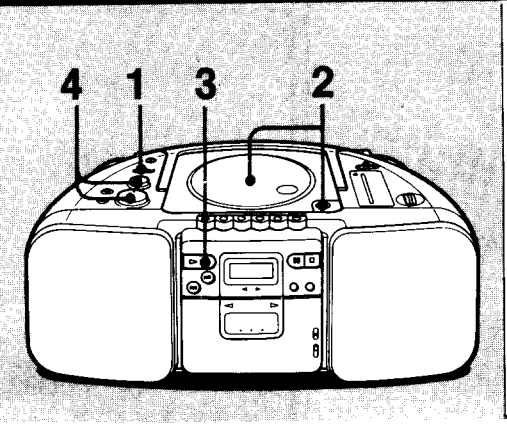
Play the sound source and speak or sing into the microphone.

4

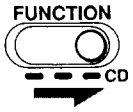


Note
If a howling (acoustic feedback) occurs, move the microphone away from the speakers or turn down the volume.

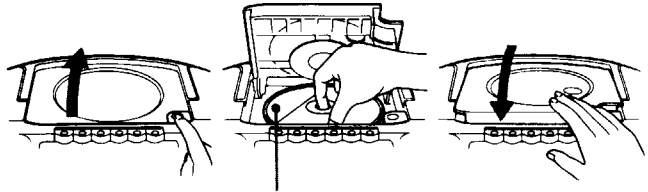
Playing a Disc—An 8 cm (3 inch) CD can be played without an adaptor.



1



2 **Place a disc.**



Press completely. Label surface up

The number of selections in the disc and the total playing time will appear in the display window.

To pause: Press ▯▯. To resume play, press ▯▯ again.

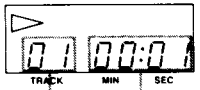
To eject a disc: Press CD OPEN.

Do not press CD OPEN during playing
Otherwise, the disc will be damaged.
Be sure to stop the disc first.

To reinforce the bass sound: Press B
BOOST (⏥ ON).

While listening to the tape or radio
You can also adjust the sound with B
BOOST.

3

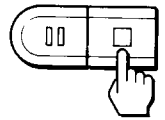


First selection

Elapsed playing time

4

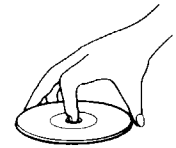
To stop play



To turn off the unit
Set FUNCTION to TAPE CD/RADIO OFF.

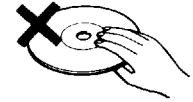
Notes on compact discs

This way



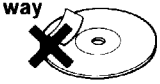
Handle the disc by its edge.

Not this way



Do not touch the surface.

Not this way



Do not stick paper or tape nor write anything on the surface.

ss BASS

lio
ith BASS

Note on BASS BOOST
BASS BOOST is most effective around the third position from MIN of the volume range. Even if you raise the volume more, the BASS BOOST effect will be negligible.

Information Display

During playing

Selection number being played

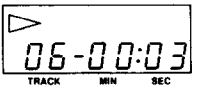
Elapsed playing time

While CD player is set in pause

Pause indication appears

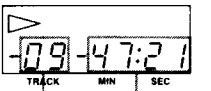
Between selections

Remaining time until the next selection is displayed.



To display the remaining time in the disc being played

Press REMAIN/ENTER



Remaining number of selections

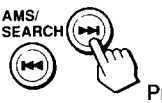
Total remaining time in disc

To return to the normal display, press REMAIN / ENTER agein.

Note

During shuffle or program play, the remaining time in the disc is not displayed even if REMAIN/ENTER is pressed.

Locating a Particular Portion

Locating a particular selection (AMS)*	To locate the beginning of the current selection Press once.	To locate the next selection  Press once.
Locating a particular point in a selection (SEARCH)	To go back at high speed Keep pressed.	To go ahead at high speed Keep pressed.

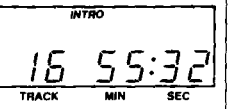
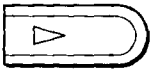
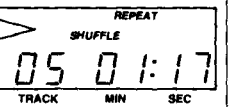
*AMS is the abbreviation of Automatic Music Sensor.

Notes on the AMS function

- The player pauses at the beginning of the located selection when you press ⏮ or ⏭ in pause mode.
- If you press ⏮ repeatedly, the player locates the previous selections.
  If you press ⏭ repeatedly, the player locates the selections ahead and stops at the last selection.

Selecting Various Playing Modes

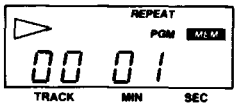
Each time PLAY MODE is pressed, play mode changes as follows. To stop the disc, press □.
Operate while listening to the disc. However, select INTRO scan play when disc is not being played.

Play mode	Button to be pressed	Front display window
Scanning all the selections **—INTRO scan play**	❶ Press PLAY MODE once when disc is not being played. PLAY MODE	
Beginnings of selections are played for 10 seconds successively.	❷ Press ▷  Scanning starts from the first selection	
Repeating one selection **—REPEAT 1**	Press PLAY MODE once more while listening to the desired selection. PLAY MODE Press ⏮ or ⏭ for another selection.	
Repeating all the selections **—REPEAT ALL**	Press PLAY MODE once more. When play reaches the end of the disc, it starts again from the first selection. PLAY MODE	
Playing repeatedly in a random order —REPEAT SHUFFLE	Press PLAY MODE once more. PLAY MODE	

Playing in the desired order repeatedly —REPEAT PGM (program)

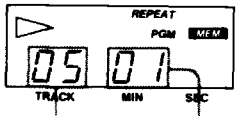
❶ Press PLAY MODE once more.

PLAY MODE



❷ *Choose the desired selection with* ⏮ or ⏭.

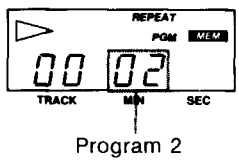
AMS/ SEARCH



❸ Press REMAIN/ENTER

REMAIN/ ENTER

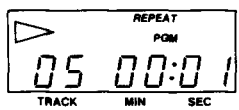
The selection is stored.



❹ Repeat steps ❷ and ❸. (Up to 16 selections)

❺ Press ▷.

MEM disappears and play starts.

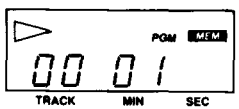


Playing in the desired order once —PGM (program)

❶ Press PLAY MODE once more.

PLAY MODE

❷ Repeat steps ❷ to ❺ above.



To return to normal play, press PLAY MODE once more.

When you open the disc holder or you press □.
All the programmed selections are cleared.

If another selection is stored after 16 selections have been stored
The first selection will be cleared and the new one will be stored in its place.

Troubleshooting Guide—Check the following possible causes.

General

No sound from the speakers
- Improper polarity of the batteries
- Weak batteries → Replace all the batteries with new ones.
- Improper FUNCTION selector setting
- The headphones are plugged in.

CD Operation

The unit does not operate
- The disc is inserted with the labeled surface down.
- The disc compartment lid is not closed.
- Dusty or defective disc → Clean the disc with an optical cleaning cloth. Wipe the disc from the center out.
- Moisture condensation → See "Precautions".
- Improper FUNCTION selector setting
- When the CD operation buttons cannot be activated, turn off the unit and turn it on again.

Skipping of sound in CD operation
- Dusty or defective disc → Clean the disc.
- Dirty lens → Clean the lens with a commercially available blower.
- Strong vibrations

Tape Operation

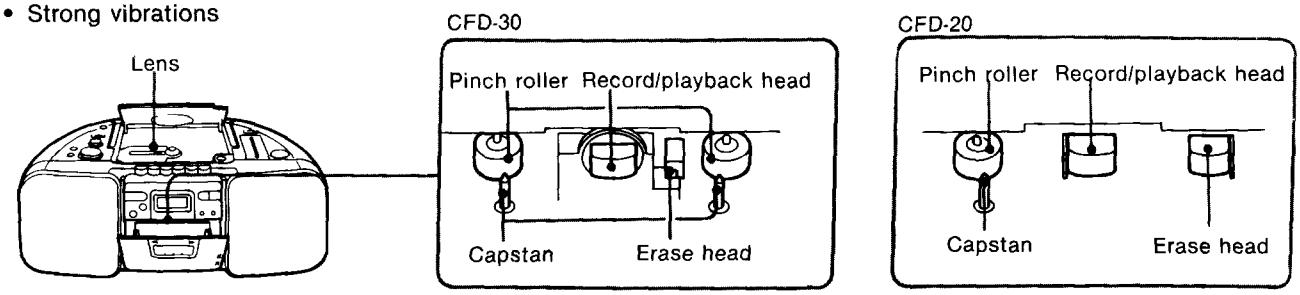
No tape operation
- ⏸ PAUSE button is depressed. → Press again to release it.

● REC button cannot be depressed.
- The cassette inserted has the tabs removed. → Cover the slots.

Sound drop-outs, loss of high frequencies, or excessive noise
- Dirty heads → Clean the portions illustrated below with a cleaning tip slightly moistened with cleaning fluid or alcohol.

Recording or playack cannot be made or there is a decrease in sound level.
- Dirty heads → Clean the heads.
- Improper FUNCTION selector setting

Unsatisfactory erasing
- Dirty erase head → Clean the head.



Specifications

Audio Power Specifications

POWER OUTPUT AND TOTAL HARMONIC DISTORTION

With 3.0-ohm loads, both channels driven from 150-15,000 Hz: rated 2.3 W per channel minimum RMS power, with no more than 10% total harmonic distortion in AC operation.

Other Specifications

CD player section

System	Compact disc digital audio system
Laser diode properties	Material: GaAlAs Wavelength 780 nm Emission duration: Continuous Laser output: less than 44.6 μW *This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block.*
Frequency response	20-20.000 Hz ±2 dB
Wow and flutter	*Below measurable limit*

Radio section

Frequency range	FM: 87.6-108 MHz AM: 530-1,710 kHz
Antennas	FM: Telescopic antenna AM: Built-in ferrite bar antenna

Tape recorder section and general

Recording system	4-track 2-channel stereo
Frequency response	70-10,000 Hz (with TYPE I (NORMAL) cassette)
Speaker	Full-range speakers: 10 cm dia., cone type
Power output (except USA model)	4.6W (2.3 W + 2.3 W) *(at 3.0 ohms,* 10% harmonic distortion)
Input	Mixing microphone input jack (minijack) Sensitivity 2.5 mV *For low impedance microphone*
Output	Headphones jack (stereo minijack) For 16-68 ohms impedance headphones
Power requirements	120V AC, 60 Hz DC 9 V, 6 size D (R20) batteries
Power consumption	25 W

Battery life (hours)

	FM recording	Tape playing	CD playing
Sony SUM-1 (NS)	approx. 9	approx. 6	approx. 2.5
Sony Alkaline AM 1 (N)	approx. 16.5	approx. 11	approx. 4.5

Dimensions	Approx. 410 × 170 × 235 mm (w/h/d) (Approx. 16¼ × 6¾ × 9⅜ inches) *incl. projecting parts and controls*
Weight	Approx. 4.2 kg, incl. batteries (Approx. 9 lb 5 oz)
Supplied accessory	AC power cord (1)

Design and specifications subject to change without notice.

Optional Accessories

Sony "MDR" headphone series
Sony "Dynamic microphone" series
Head demagnetizer HE-5C
CD cleaner XP-CD1, XP-CD4